

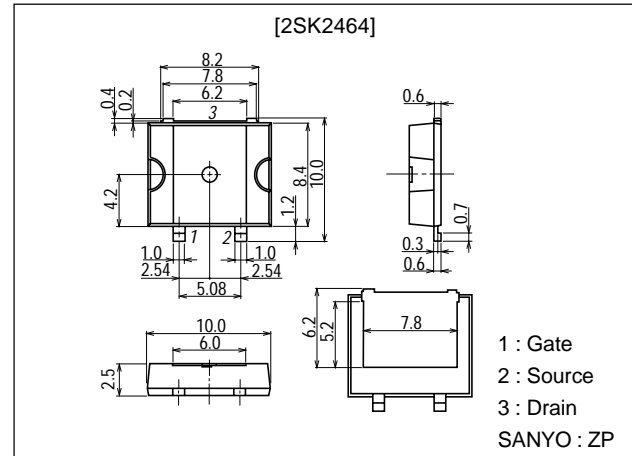
**SANYO****Ultrahigh-Speed Switching Applications****Features**

- Low ON resistance.
- Ultrahigh-speed switching.
- Enables simplified fabrication, high-density mounting, and miniaturization in end products due to the surface mountable package.

**Package Dimensions**

unit:mm

2128

**Specifications****Absolute Maximum Ratings** at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		45	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	180	A
Allowable Power Dissipation	$P_D$	$T_c = 25^\circ\text{C}$	50	W
Channel Temperature	$T_{ch}$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 1\text{mA}$ , $V_{GS} = 0$	30			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 30\text{V}$ , $V_{GS} = 0$			100	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0$			$\pm 100$	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$	2		4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10\text{V}$ , $I_D = 22\text{A}$	20	30		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D = 22\text{A}$ , $V_{GS} = 10\text{V}$		8.5	12	$\text{m}\Omega$
Input Capacitance	$C_{iss1}$	$V_{DS} = 0\text{V}$ , $f = 1\text{MHz}$		3750	4300	pF
	$C_{iss2}$	$V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		2700		pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		2300		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10\text{V}$ , $f = 1\text{MHz}$		450		pF

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**SANYO Electric Co., Ltd. Semiconductor Company**

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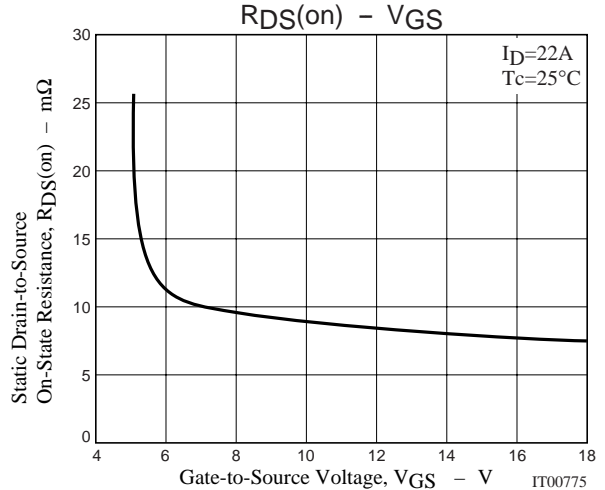
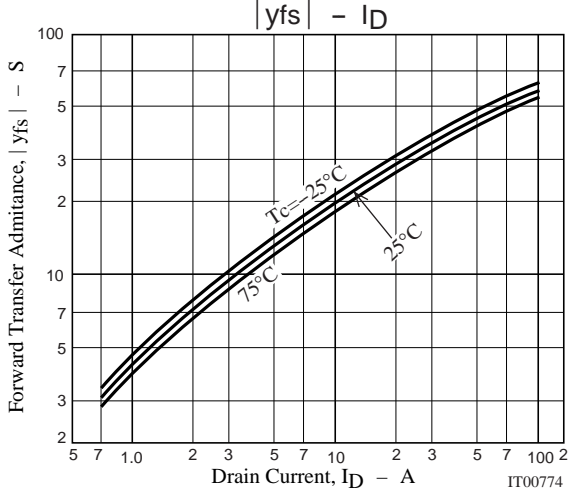
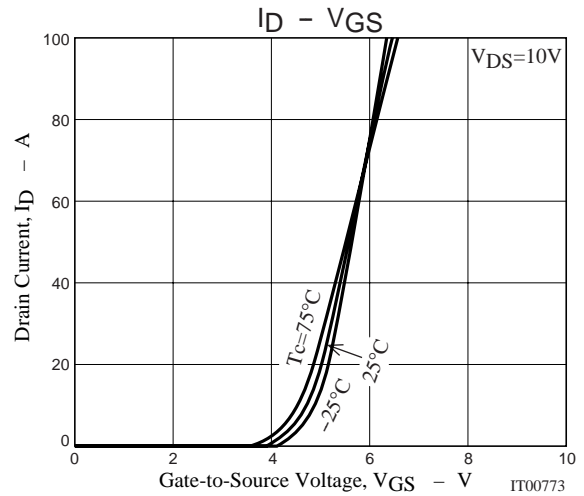
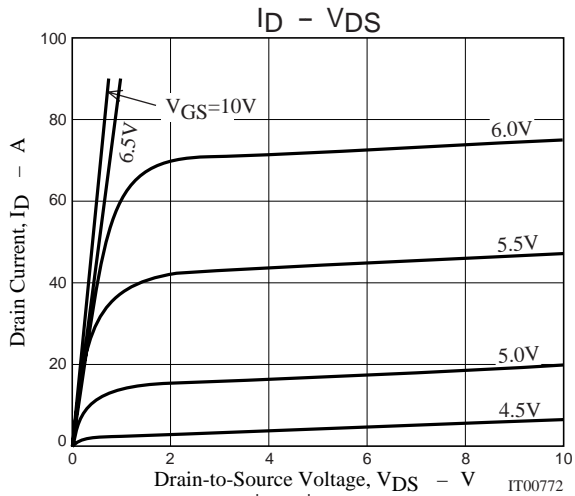
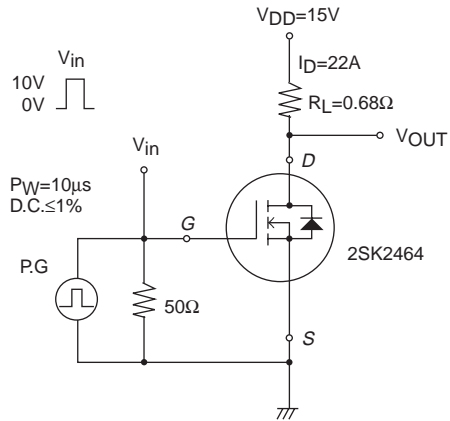
# 2SK2464

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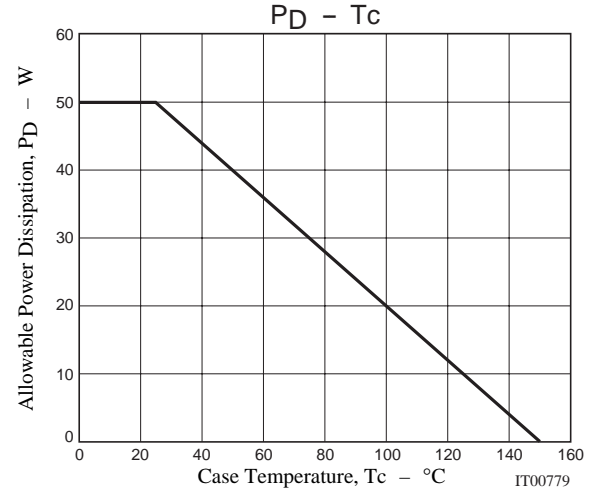
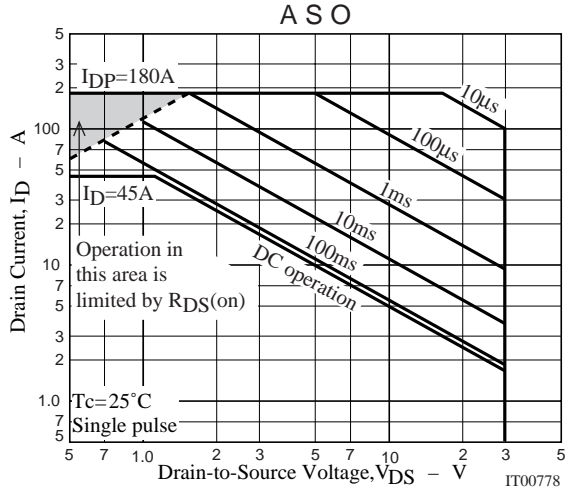
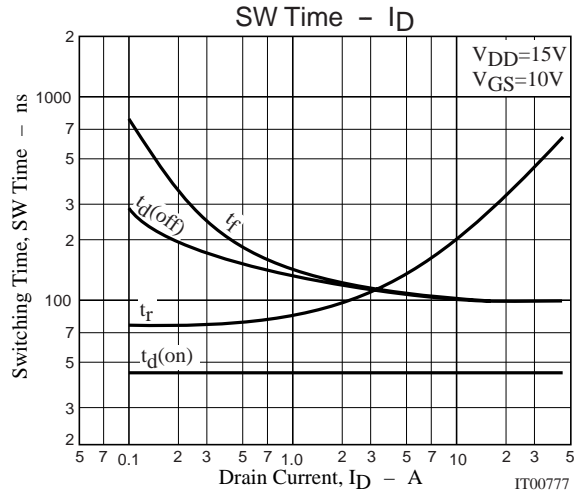
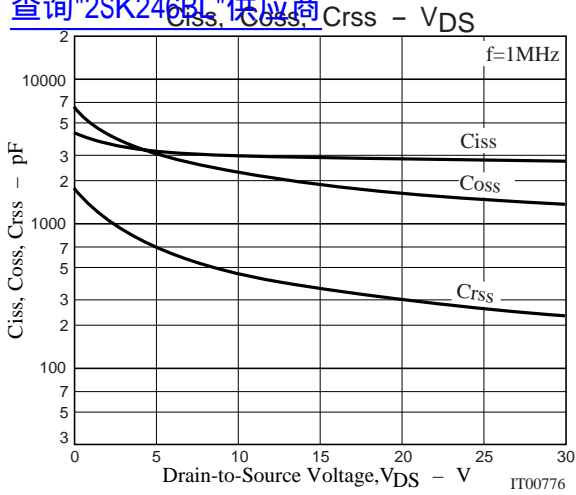
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		45		ns
Rise Time	$t_r$	See specified Test Circuit		350		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		100		ns
Fall Time	$t_f$	See specified Test Circuit		100		ns
Diode Forward Voltage	$V_{SD}$	$I_S=45A, V_{GS}=0$		1.0	1.5	V

## Switching Time Test Circuit



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